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Export Market Re-entry: Time-out Period and Price/Quality Dynamisms

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Abstract

The relevance of nonlinear internationalisation regarding exporting activities and the performance post re-entry remains little understood. This study develops a two-stage model to explain the process of exporting firms' exit and re-entry decisions regarding individual export markets. Specifically, we investigate the dynamic relationships between exit and re-entry stages by focusing on the time-out period. We empirically test the decision model by employing export data from the Chinese Customs for the period 2000-2009. The results indicate the importance of the exit stage in shaping re-entry decisions, price/quality ratio and export performance, where time-out period plays a significant role in varying these effects.

Key words: Market Exit; Market Re-entry; Price/Quality Ratio; Time-out Period; Export Performance; Two-Stage Model

1 INTRODUCTION

The internationalisation of firms is not always a linear and forward-moving process. Businesses can withdraw from a foreign market (de-internationalisation) and stay out of it for a period of time (a time-out period). This can be followed by a process of international re-entry, concluding with successfully renewed international operations (Welch & Welch, 2009). Such de- and re-internationalisation activities represent foreign involvement fluctuations and internationalisation flexibility, referred to as nonlinear internationalisation (Vissak & Francioni, 2013). Re-internationalisation, which is defined as “withdrawal from inward and outward international operations by a company before subsequent international re-entry” (Welch & Welch, 2009: 568), can be beneficial to international firms that are competing for global expansion and growth, as it reduces the uncertainty of a new export entry and increases the possibility of achieving internationalisation expansion (Bernini, Du, & Love, 2016; Javalgi, Deligonul, Dixit, & Cavusgil, 2011). It helps to improve international firms’ proliferation of global operationalisation, capture emerging opportunities, and salvage prior sunk costs (Javalgi et al., 2011).

In particular, with respect to an important aspect of internationalisation, exporting often represents an initial step for the internationalisation of a firm that normally does not need a physical presence in the host market (Malhotra & Hinings, 2010). Thus, the nonlinear internationalisation of exporting activities becomes a particularly viable process (Bernini et al., 2016). Exporting firms may choose to exit an international market to avoid operational difficulties and deterioration of conditions (Sousa & Tan, 2015). Subsequently, following a time-out period, exporters may choose to re-enter the previously abandoned export market. The re-entry decision is a particularly important consideration for exporting firms, as it allows exporters

to exploit the knowledge they have obtained and to ‘recycle’ the heritages previously gained from exited foreign markets. Their previous experience of exporting in the exited market, either positive or negative, offers valuable learning opportunities. When exporting firms contemplate market re-entry, the utilisation of previous knowledge from the abandoned export market enables them to astutely shift their targets to growth and diversification after re-entry (Javalgi et al., 2011).

Despite the fact that market exit and re-entry among exporting firms is a regular occurrence, it has been largely ignored in the literature (Bernini et al., 2016; Sousa & Tan, 2015). In particular, market re-entry has received even less research attention than market exit (Vissak & Francioni, 2013). Compared with an initial entry, market re-entry is a more complex phenomenon because it involves influence from existing relationships with customers, knowledge of foreign markets, and market resources (Javalgi et al., 2011). The resource-based view (RBV) posits that a firm’s strategic choices are constrained by its current level of resources (Barney, 1991). Due to the intangible resources accumulated during previous operations, referred to as *international heritage*, re-entry decisions tend to have different targets, which necessitate different decision-making processes (Welch & Welch, 2009). However, the specific role of international heritage in the internationalisation process cannot be adequately explained by the existing theory of internationalisation in the market entry literature.

Of the few studies devoted to market exit and re-entry (e.g., Bernini et al., 2016; Welch & Welch, 2009), the majority focus only on the re-entry decision after *full exit* (i.e., transforming from an exporter to a non-exporter). In practice, the decision to exit a market is not only concerned with the complete withdrawal from all exporting activities but also includes more microscopic

decisions in terms of withdrawing from one or more individual markets, referred to as *partial exit* (Welch & Welch, 2009). The corresponding re-entry decisions shift from restarting exports to re-entry into individual export markets. Decision theory focuses on choices under uncertainty in the decision-making process (Wierenga, 2011). In terms of re-entry to individual export markets, decision makers need to consider the expected return of re-entry in specific foreign markets. Hence, this study expands the current research on exit and re-entry decisions regarding overall exporting activities by focusing on those individual export markets, thereby deepening the understanding of the reversibility of the internationalisation process.

In addition, the currently limited literature ignores variations in the connection between exit and re-entry stages. The time-out period (i.e., the duration between exit and re-entry) directly connects the exit and re-entry decisions (Vissak & Francioni, 2013). The length of the time-out period determines the timing of re-entry and reflects the changes in the international heritage (Javalgi et al., 2011). The longer the period out of an export market, the greater the likelihood of a dissipation in the international heritage there will be (Welch & Welch, 2009). Thus, the resources residue varies with the changing length of the time-out period that re-shapes the uniqueness of re-entrants. In other words, the relationships between the exit and re-entry stages are moderated by the time-out period.

Hence, combining RBV and decision theory, this study develops a two-stage decision model that theoretically unfolds the multistage nonlinear internationalisation processes regarding exporting activities in individual export markets. The model highlights the dynamic relationships between exit and re-entry stages by focusing on the moderating role of the time-out period. As such, the study addresses the following research questions: (1) What is the dynamic relationship between

the export market exit and re-entry stages? (2) How does the time-out period play a role in varying these relationships?

Addressing these issues, the study provides three contributions to the literature. First, we develop a two-stage decision model that offers explanations for the exporters' exit and re-entry decisions at a more microscopic level: exit and re-entry to individual export markets. This effort adds to the traditional internationalisation theory by augmenting the internationalisation process to quasi-internationalisation and demonstrating the reversibility of the internationalisation process in export activities (Vissak & Francioni, 2013). In this study, we highlight the determinants that trigger exporting firms' quasi-internationalisation trajectory of exiting and re-entering individual export markets. This effort shows that unique knowledge and experience in the exited markets play a significant role in shaping re-entry decisions, price/quality ratio and performance.

Second, this study further facilitates the decision theory by considering the time-out period, which provides critical boundary conditions to re-entry decision making. The length of the time-out period directly determines the re-entry timing to export and implicates the residue of international heritage in exited export markets (Javalgi et al., 2011; Vissak & Francioni, 2013).

This study confers a theoretical model that includes the time-out stage, where the time-out period has auxiliary moderation effects on the relationships between the exit and re-entry stages, including probabilities, price/quality ratio and export performance. This allows us to examine the dynamic aspect of the re-entry stage by answering the question of how the determinants and outcomes of re-entry vary with the time-out period. As such, this study complements RBV by embracing the decision flexibility and suggesting a dynamic sequential decision flow over time.

Third, this study empirically examines the theoretical model by employing an extensive firm-country-year-level dataset of export exit and re-entries over the period 2000–2009. This effort highlights that the exit stage is considered an important pre-condition that conceptually differentiates re-entrants and initial entrants, where re-entry decisions tend to have different targets and resources that necessitate different decision-making processes (Welch & Welch, 2009). Export market exit is not the end of the internationalisation process. Exporting firms could reuse the international heritages to take advantage of new opportunities for international re-entry.

The study is structured as follows: first, the theory and relevant hypotheses are developed. Second, the model is empirically tested by employing firm-country-year level data. This testing is followed by a corresponding analysis of the results. The paper concludes with a discussion and implications of the findings.

2 THEORY AND HYPOTHESES

For exporting firms, the foreign economic environment involves ongoing uncertainty (Dixit, 1992). Due to the presence of uncertainty, exporters are limited in their capability to predict and plan for various future contingencies. Traditional strategy theories (e.g., transaction cost theory) consider uncertainty to be detrimental as it raises the risk of unanticipated contingencies and increases the cost of hierarchical control (Trigeorgis & Reuer, 2017). However, greater exogenous market uncertainty not only represents a higher downside risk, but also implies a higher upside potential (Li & Chi, 2013). Decision theory is the science of making decisions under uncertainty offering decision flexibility (Berger, 1985). It allows firms to adapt to the

changing environment by incorporating the asymmetric effects of both upside potential and downside uncertainty (Berger, 1985). A statistical decision evaluation presents a better assessment of a strategic decision than alternative theories by considering the uncertainty, and generally suggests a proactive response to the uncertainty (Kahneman & Tversky, 1979; Wierenga, 2011). It allows firms to defer action, thereby enabling them to benefit from the upside potential and avert downside risk (Levitas & Chi, 2010). When uncertainty emerges as an outcome of a firm's strategic decision, a statistical decision model is made as a multistage intertemporal process that links current actions to uncertain futures (Berger, 1985).

In this study, we view the export market exit and re-entry decision as a two-stage optimal-switching decision model, as illustrated in Figure 1. After the decision is made to leave a foreign market, exporting firms always remain open to re-entry. Exporters evaluate the expected return of re-entry decisions each year. If the expected return of re-entry surpasses the expected return of staying out, restarting exports to that market could be valuable.

[Figure 1 goes about here]

In order to make a reliable prediction of future performance, exporters need to synthesise past information and make appropriate strategic plans to boost future performance. Based on RBV, firms' superior performance is generated by their controlled resources/capabilities and the corresponding deployment (Barney, Wright, & Ketchen, 2001). Previous performance is valuable in shaping future performance. Firms' performance is usually viewed as feedback on their previous strategic operations and as an indicator of expected future performance (Sousa & Tan, 2015). Previous performance provides an indication of the firms' resources endowments and their

capability of leveraging those resources (Tang & Liou, 2010). Poor performance suggests previous unsuccessful strategies that are likely to trigger strategic changes and lead to exit decisions (Sousa & Tan, 2015). Once an export market exit happens, the performance at the exit time reflects an exporting firm's international heritage resources that reveal its previous operations in this market. Moreover, the possession of the previous exporting performance distinguishes re-entry firms from new entrants in foreign markets (Welch & Welch, 2009). After re-entry, previous performance at the exit time indicates re-entry firms' idiosyncratic resources that affect the export performance after re-entry.

Noticeably, re-entry may not happen immediately after an exit decision. Resources (e.g., market experience and knowledge) shift and evolve over time (Helfat & Peteraf, 2003). During the time-out period, a period in which a firm evaluates but remains idle, exporters are open to the re-entry decision but wait for the right timing to return. As the economic environment is uncertain, time brings more information about future prospects (Dixit, 1992). Waiting has a positive value under uncertainty, as it allows exporters to update their evaluation of each alternative and prepare for re-entry (Levitas & Chi, 2010). However, it is important to notice that the value of waiting is against the sacrifice of current profit, which is considered the advantage of a returner in this study (Dixit, 1992). The length of the time-out period plays a moderating role that dissipates the effect of international heritage accumulated from the previous exporting activities in this market. Hence, the interim time-out period weakens the lagged relationship between the prior exit and later re-entry stages. Furthermore, the time-out period determines re-entry timing that represents the value of waiting and reflects the remains of international heritage (Javalgi et al., 2011). Thus, it is important to consider the time-out period when making a re-entry decision.

Decision theory highlights that the decision-making is driven by the expectation of future returns (Berger, 1985). In order to better predict future returns, exporting firms need to identify a strategic plan posterior to re-entry. In particular, the combination of product price (i.e., customer cost) and quality (customer benefits) plays a crucial role in shaping a firm's performance (Brouthers, Werner, & Matulich, 2000; Rhim & Cooper, 2005), thereby helping to make a re-entry decision. Prior studies have highlighted the importance of the price-quality relationship to new-entry product launches (Pauwels & D'Aveni, 2016; Rhim & Cooper, 2005). For marketing activities, quality reflects what customers gain from a purchase, and price reflects what they forfeit for it (Brouthers & Xu, 2002; Pauwels & D'Aveni, 2016). The combination of price and quality strategies directly determines the customers' purchases (Brouthers et al., 2000). However, the method of reaching the appropriate combination of price and quality in order to boost performance after export market re-entry remains little understood. In the absence of the strategic positioning to re-entry firms, we seek to understand the impact of the price/quality ratio in the re-internationalisation process. As re-entry exporters are more likely to target international growth and expansion (Javalgi et al., 2011), appropriately setting strategic configuration of price and quality becomes particularly important for re-entrants to achieve their target.

Based on the above arguments, we develop a two-stage decision model with four hypotheses, shown in Figure 2. Drawing from RBV and decision theory, we theoretically explicate the export market exit and re-entry decisions by examining the dynamics between the exit and re-entry stages and strategies posterior to re-entry.

[Figure 2 goes about here]

First, we hypothesise that the relationship between exit and re-entry probability is moderated by the time-out period. Second, we consider that the export performance before the exit time has effect on re-entry probability, and this effect is altered by the time-out period. Third, regarding the export performance after re-entry, we examine how the benefits from previous export performance tend to be mitigated by the time-out period. Fourth, we investigate the issue of posterior price and quality strategies, which play a significant role in shaping firm performance. We hypothesise the connection between the price/quality ratio at exit and re-entry stages and demonstrate how the link varies with the time-out period.

2.1 The Valuation Model of the Re-entry Decision

We develop the valuation model of the export market exit and re-entry decision by using dynamic programming. The intertemporal decision process is shown in Figure 1. For an exporting firm i that exports to a foreign country j at time t_0 , after the decision to exit this market at t_1 , re-entry choice becomes a valuable consideration. At time t_2 , when the expected return after re-entry exceeds the expected return of staying out, firm i will choose to re-enter. Let $F_i(t, d)$ denote the present value of firm i at time t with state d , where d is a dummy variable that indicates whether the firm is exporting in market j (1) or not (0). The re-entry decision model can be formulated as:

$$F_i(t_1, 0) = \max\{F_i(t_2, 0), F_i(t_2, 1) - C_{jE}\} \quad (1)$$

where C_{jE} represents the entry cost to enter foreign market j . When a firm decides to re-entry to the previous export market at time t_2 , it could set its strategic set u and obtain immediate performance $V_i(t_2, u)$.

The future expectation is estimated by using the information available at t_1 , denoted as ε_1 . Then, exporting firm will choose u to maximise the expected return after re-entry, formulated as:

$$F_i(t_2, 1) = \max_u \{ \varepsilon_1[F_i(t_2, 0)], V_i(t_2, u) + \frac{1}{r+1} \varepsilon_1[F_i(t_3, 1)] \} \quad (2)$$

The predicted value of $V_i(t_2, u)$ indicates the immediate performance after re-entry, with the formula:

$$V_i(t_2, u) = \sum_{\omega} (p_{\omega i j t_m} - c_{\omega i j t_m}) S_{\omega i j t_m} \quad (3)$$

where $p_{\omega i j t_m}$ is the unit price of export product ω in country j at time t_m , if exporting firm i chooses to re-entry; $c_{\omega i j t_m}$ is the unit cost of export product ω in produced by exporting firm i at t_m ; $S_{\omega i j t_m}$ is the total export sales quantity of export product ω in country j at t_m .

The expectation of future return is calculated using the information available at the decision time.

$$\varepsilon_1[F_i(t_2, 1)] = \sum_{k=1}^K \rho_k F_i(t_2, 1) \quad (4)$$

where the probability of market changes by using the current knowledge and $\sum_1^K \rho_k = 1$.

For firms with a continuing operation mode (e.g., continuing staying out), export performance is likely to be highly correlated with past performance (Lin, 2014). Hence, the expected

performance $F_i(t_2, 0)$ is predicted by the past performance $F_i(t_1, 0)$ and the discounted future performance, written as:

$$\varepsilon_1[F_i(t_2, 0)] = \alpha_0 + \alpha_1 F_i(t_1, 0) + \frac{1}{r+1} \varepsilon_1[F_i(t_3, 0)] \quad (5)$$

where α_1 is the performance inertial coefficient.

Noticeably, the re-entry behaviour can only happen after the previous exit decision. Thus, the propensity for the re-entry is conditioned on the previous market exit decision. The propensity of re-entry can be formulated as:

$$\begin{aligned} P_{ij}(d_{t_2} = 1 | d_{t_1} = 0) &= P(\varepsilon_1[F_i(t_2, 1)] - C_{jE} - \varepsilon_1[F_i(t_2, 0)] > 0 | d_{t_1} = 0) \\ &= \int [\varepsilon_1[F_i(t_2, 1)] - \omega - \alpha_1 F_i(t_1, 0) | P_{ij}(d_{t_1} = 0 | d_0 = 1)] dt \end{aligned} \quad (6)$$

where $\omega = \alpha_0 + C_{jE}$. The equation of re-entry propensity indicates that the relationships between exit and re-entry decisions are moderated by time. Unlike the new entry, the re-entry decision is conditional on the prior exit decision (Bernini et al., 2016). Previous exporting activities and outcomes provide prior information to enable predictions, which opens up unique opportunities for future decision making (Trigeorgis & Reuer, 2017). Although exporting firms may choose to leave an export market, the accumulated experience and knowledge heritage in that market conjointly affect the re-entry decision. Moreover, effects from the exit stage change over time, as some resources decay gradually if they are not used (Dixit, 1989). In this case, if an exporting firm has left a foreign market for a long period of time, the previous network and commitment in this market will disintegrate and will need to be rebuilt when the firm decides to re-enter. Such depreciation adds a dynamic perspective to the hysteresis effect from the prior exit

stage. Specifically, this study focuses on two key variables of the exit stage, i.e., exit probability and export performance before exit.

Regarding exit probability, the factors that lead exporting firms to give up a foreign market may continue to discourage them from returning to this market. Exporting firms decide to exit a foreign market to prevent future losses in this market, which may be caused by their internal strategic re-orientation, operational failure, and external market shocks. Exporters with strong exit propensity tend to have difficulties in resource deployment or experience significant market changes in foreign markets (Bernini et al., 2016). As such, they are less likely to return to the markets they have exited (Sousa & Tan, 2015).

Nevertheless, the accumulated knowledge gained from previous exporting experience supplements exited firms' limitations in resource endowments. However, such unique resources gained from previous exporting activities in exited markets may become lost or inaccessible along with growing time-out period. After staying out for a long period of time, the previous networks and relationships are completely ruptured and the information gained previously becomes outdated and useless (Welch & Welch, 2009). Exiters face decreasing market-specific resources and growing re-entry barriers, which in turn further discourage them from re-entering to the exited markets. Hence, the negative relationship between exit and re-entry propensities is further strengthened by growing length of the time-out period. Reducing sediments of intangible resources depreciate the expected return of re-entry, so the probability of the expected return of re-entry outweighing staying out becomes smaller along with increasing time of leaving.

Additionally, spending too much time on waiting leads to a soaring opportunity cost of re-entry, which leads to a lower likelihood of re-entry. In this vein, the increasing time-out period tends to

aggravate the negative relationship between exit and re-entry. This leads us to the first hypothesis:

Hypothesis 1: The negative relationship between exit probability and re-entry probability is negatively moderated by an increasing time-out period.

Based on the above valuation model, Equation 6, exporters' re-entry choice is also driven by previous performance at the exit time. The outcomes of previous episodes of exporting reflect the repository of accumulated knowledge and network in terms of this particular export market, which shapes future re-entry opportunities (Casillas, Moreno, Acedo, Gallego, & Ramos, 2009; Welch & Welch, 2009). Without the vestige of international heritage, re-entrants will be asymptotically analogous to initial entrants (Welch & Welch, 2009). Although the international heritage may not be directly observed by executives, it is embedded in, or hidden behind, the intertemporal linkage between firms' previous activities and future decisions. Exporting firms with superior performance before exit tend to have stronger capabilities in terms of resource deployment, which helps them to gain better knowledge and build sturdier networks. As such, they tend to have better international heritage remaining compared to those with poor performance. In this way, they are more likely to re-enter the markets that they used to perform well.

However, analogously, we consider that such a positive effect does not persist over time. Although superior export performance provides stronger market-specific resources, such resources are still depreciating along with the increasing time-out period. The extra advantages

from previous exporting activities shrink over time. Thus, the weight of export performance before exit in predicting the return of re-entry decreases with the increasing time-out period, where the likelihood of re-entry generated by previous export performance diminishes over time accordingly. Thus, we posit that the length of the time-out period negatively moderates the positive relationship between export performance before exit and re-entry probability.

Hypothesis 2: The export performance before exit positively affects the re-entry probability to an export market, and this influence is negatively moderated by the time-out period.

2.2 Export Performance after Re-entry

The presence of prior knowledge and hysteric effects shift the relevance of export performance after re-entry to a more complex issue. Noticeably, export performance for re-entrants is collectively shaped by their prior exporting outcomes before exit and marketing strategies after re-entry. Firms that lack such early pre-experience are unable to access the value of re-entry. Thus, the previous export heritage in an export market appears to have a positive lagged effect on the export performance after re-entry to some extent. However, this positive effect from the outcomes of previous exporting activities is not permanent. If exporting firms do not appreciate the international heritage that stems from prior exporting activities after exit (e.g., exit from an export market for a long time period), then they may be unable to operate this unique resource to contribute to the export performance after re-entry. Thus, the longer the period out of an export market, the greater the likelihood that there will be an indulgence of previous performance, and the international heritage appears to have less influence on the export performance after re-entry.

As such, we consider that the positive effect of the export performance before exit on the export performance after re-entry tends to be deteriorated by the increasing time-out period. Export sales after re-entry can be formulated as:

$$S_{ijt_2} = \alpha_1(\Delta t)S_{ijt_1} + S_i(t_2, u) \quad (7)$$

The first half of the equation indicates the proportion of export sales shaped by the strategic set at time t_2 , where $\alpha_1(t)$ indicates the weight assumed as a decreasing function of increasing time-out period Δt ; $S_i(t_2, u)$ denotes the proportion of export sales shaped by the strategic set at time t_2 . Hence, we hypothesise the following:

Hypothesis 3: The export performance before exit positively affects the export performance after re-entry in an export market, and this influence is dissipated by the time-out period.

2.3 Price/Quality Strategy after Re-entry

One of the main objectives of re-entry is to utilise the previous knowledge to achieve growth and diversification after re-entry (Javalgi et al., 2011). Previous exporting activities before exit are valuable resources for re-entrants, and these significantly affect exporting operations after re-entry. Despite the re-entry probability and export performance discussed above, marketing strategies after re-entry are also guided by previous strategies.

In particular, this study focuses on the price/quality ratio, which represents the price changes per unit change of quality and is constructed as the export price divided by the quality (Levin & Johnson, 1984). The price/quality ratio provides a trade-off, where customers “pay for what they get” and “get what they pay for” and directly estimates the changes in price that are paralleled with expected changes in quality (Pauwels & D’Aveni, 2016). An appropriate combination between quality and price represents firms’ strategic positioning, which delivers the perceived value of purchase (Chang & Wildt, 1994). Past-perceived price in relation to quality can endure to shape customers’ willingness to pay, which in turn can affect the firms’ future strategic decisions in terms of price/quality ratio (Chang & Wildt, 1994). Conditional on quality, increasing unit price increases exporters’ unit markup, but discourages customers’ willingness to pay. Comparatively, conditional on price, improving a product’s quality may be more appealing to customers, but raises production costs and mitigates exporters’ gains.

With previous presence and legacy in the foreign market, re-entry firms are in a better position to expand their customer group immediately after re-entry, without the need to always employ a low-price strategy to penetrate the re-entry markets (Javalgi et al., 2011). The trade-off between price and quality, which suggests requisite value of the price per unit quality, shapes customers’ prior purchasing experience and facilitates the company’s product positioning (Levin & Johnson, 1984). Prior purchasing is considered to reinforce placebo effects whereby favourable product experiences based on perceptions of quality are likely to strengthen and sustain expectations of future product experiences (Rao, 2005). Therefore, the previously employed price/quality ratio at exit stage can serve as a guidance for the new ratio. Research indicates that price acts as an extrinsic signal that credibly communicates the unobservable quality to customers (Rao, 2005).

For the re-entry firms, customers may be more aware of product brands and positioning that have been previously present in the market and are therefore more likely to purchase without careful investigation of product quality (Zablah, Brown, & Donthu, 2010). As a result, these firms are more likely to sustain the previous positioning that had been built up and received by the market, where a high trade-off value between price and quality before exit leads to high trade-off value after re-entry. As such, we consider that there is a positive relationship between the previous price/quality ratio before exit and the ratio after re-entry.

However, we would expect this positive relationship to be moderated by the time-out period. If exporting firms have a short time-out period, foreign customers are more likely to have a residual impression of brand and product experiences, where prior strategic positioning plays a stronger role in shaping the price/quality ratio after re-entry. In this case, the positive influence from the previous price/quality ratio is stronger for a short time-out period. However, such a positive relationship between the price/quality ratio before exit and after re-entry does not persist. As a consequence of the increasing time-out period, the benefits of international heritage resources depreciate, where the positive relationship between the price/quality ratio in an export market before exit and that after re-entry decreases over time. This acknowledgement of the price/quality strategies between the exit and re-entry stages helps exporters to develop more precise expectations of future export performance after re-entry, as in the following hypothesis:

Hypothesis 4: The previous price/quality ratio in an export market before exit positively affects the price/quality ratio after re-entry, and this influence is dissipated by the time-out period.

3 EMPIRICAL METHODOLOGY

3.1 Data

We employed a sample of Chinese exporters to empirically test the model we developed above. China has been one of the fastest growing economies in recent decades (He, Brouthers, & Filatotchev, 2013). Recently, it has become the largest international trade country and represents the most important manufacturing location worldwide (He, Zhang, & Wang, 2015; Zhang & He, 2014).

The data were collected from three sources, the Chinese Imports and Exports of Customhouse Database (CIECD), the Chinese Industrial Enterprise Database (CIED), and the World Bank's World Development Indicators (WDI) Database. The CIECD is a proprietary database authorised by the Chinese General Administration of Customs (<http://www.allmyinfo.com/eng/>). It consists of records of everyday international transactions at Chinese Customs from 2000 to 2009, encompassing more than 12,000 commodities per year. Each record covers information such as company name, product name, product harmonised commodity code (HS code), shipment date, export/import product quantity and value, export/import country, business units, and ownership. The CIED includes Chinese enterprises' basic information and accounting statements between 1999 and 2009. It covers annual firm-level information such as the company name, employee number, total asset, total sales and ownership. The WDI is compiled by the World Bank from officially recognised data sources and includes authoritative aggregated country-level information about economic development and income level (i.e., GDP, GDP per capita).

We selected out the export observations from the CIECD dataset to approximate export market exit and re-entry decisions. Thus, we processed the CIECD dataset to obtain firm-country-year data as follows. First, horizontally, CIECD data were collected at the product level. In this study, we consider that the export market exit and re-entry decisions are made at the firm level rather than the product level, as product-level suspensions are likely to be because of non-continuous orders and firm-level retreats are likely to be driven by strategic rationales and turn out to have profound impacts. Thus, we consider firm-level exit decisions as the retreat of all products from an export market. As such, we congregated product-level data to the firm-level data by summing the export sales value and quantities of all products from the same firm to the same destination country each day.

Second, longitudinally, CIECD data were collected daily. We consider that exit and re-entry decisions are made at the annual level, as it is not worth exporting firms exiting and re-entering a foreign country within a year. In order to identify the exit and re-entry behaviour in our dataset, we aggregated the daily data into the annual data by summing up the information from the same firm to the same destination country each year. As such, we obtained an annual frequency firm-level export and import dataset. Then, we selected a subsample of firms with at least three-consecutive-year exporting observations. The exiters were those we observed exiting the export market at some point between 2000 and 2009 with a gap of at least two years, while non-exiters were those that continued to export throughout the period they appeared in the dataset.

Then, in order to obtain the firm-specific information on each exporting firm, we merged the CIED database with the aggregated export dataset obtained above by matching the integrated information of firm name and year. We dropped the redundant observations that were contained

only in either the CIED or the export dataset. As a result, we obtained an updated merged dataset that contained export-related and firm-specific information on individual exporting firms in each year.

Furthermore, we merged the WDI database by matching the export country name to obtain information on the foreign market environment. The countries that were included in the WDI database but not observed in the integrated export dataset were excluded. Thus, the final dataset contained all export-related, firm-specific, and export-country information on individual exporting firms to each foreign market each year.

To avoid misleading and unreliable statistical inferences, we omitted the observations that had missing information. In total, the final dataset contained 58,857 export market exit occasions from the period 2000-2009, occurring among 17,873 Chinese exporting firms, out of which 605 exporting firms were observed as exiting from a foreign market more than once.

Furthermore, re-entry becomes available only after the exit decision. Thus, we selected out the list of exiters to identify the re-entrants. Specifically, firms that restarted exporting to the foreign markets they had exited before were considered as re-entrants, while firms that continued to stay out of the exited markets until the end of the observation period were considered as non-re-entrants. Overall, 8,288 out of 17,873 exporting firms chose to re-enter the markets they had exited.

Table 1 describes the composition of the dataset of exit and re-entry status over the period 2000-2009.

[Table 1 goes about here]

3.2 Measures

Export market exit and re-entry decisions. In this study, we identified the exit period as a gap of two years^{*} or above before/after at least three-consecutive-year exporting activities. As such, the last year before the gap is identified as the *exit year*, and the first year after the gap is considered as the *re-entry year* (if applicable). Bernini et al., (2016) observe that, on average, exiters choose to withdraw from a foreign market after 3.5 years of exporting activities, and the number of exiters drops significantly after three years. After exiting, Bernini et al., (2016) show that the exiters start to re-enter after two years, and the number of re-entrants distributes uniformly across two to seven years. Hence, we consider that a firm tends to have a pattern of continuous exporting if it exports to a foreign market for at least three consecutive years, where a gap before/after the continuous exporting indicates exit behaviour. We coded exit decisions as a dummy variable, $Exit_{ijt}$, assuming value one for the exit year and value zero otherwise. Re-entry decisions are conditional on the previous exit decisions, which only apply to the subsample of exiting firms. We denoted the re-entry decision as, $Reentry_{ijt}$, assuming value one for the re-entry year and value zero otherwise.

Export performance. This study operationalises firm annual export sales value in an export market to measure the export performance (Li, Vertinsky, & Zhang, 2013). Export sales value is

^{*} While this two-year period is arbitrary, the results are consistent with those obtained using longer exit periods. Examination of longer exit periods is described in the robustness checks.

one of the most commonly used measures to capture export performance (Li et al., 2013). This scale provides objective sales-related and market-related measures of export performance (Sousa, 2004).

Price quality ratio. Price/quality ratio represents the price changes per unit change of quality, which is constructed as the export price divided by the quality (Levin & Johnson, 1984). The export price is measured by the free-on-board (f.o.b) value per unit (Podobnik et al., 2009). The concept of quality is a more complex construct and has been contemplated for decades, but it is still hard to define and measure (Brouthers et al., 2000; Reeves & Bednar, 1994). Kugler and Verhoogen (2009) provide direct evidence that imported inputs act as an important component in quality upgrading. Manova and Zhang (2012) use the average intermediate material prices for imported inputs as a proxy for the quality of exporting products. Following Kugler and Verhoogen (2009) and Manova and Zhang (2012), we used imported input prices at firm level as a reasonable proxy for product quality at firm level, formulated as:

$$q_{it} = \lambda \delta_{it} \quad (8)$$

where δ_{it} represents the imported input prices at firm level, which depend on the differentiated imported components $\delta_{it}^1, \dots, \delta_{it}^K$ at time t . We calculated the average price of the all differentiated imported inputs at time t , written as $\delta_{it} = avg\{\delta_{it}^1, \dots, \delta_{it}^K\}$.

Then, the price/quality ratio is formulated as:

$$lpq_{ijt} = \log\left(\frac{p_{ijt}}{q_{it}}\right) \quad (9)$$

where lpq_{ijt} denotes the logarithmic price/quality ratio of firm i in country j at time t ; p_{ijt} represents the average price and q_{it} represents the proxy quality of products exported by firm i at time t .

Time-out period. This study denotes the length of the time-out period as Δt , which is the length of time a firm does not export to a foreign market after exiting from that market.

Control variables. In order to reduce the possible confounds, this study controls for some key firm-level variables, including degree of internationalisation, firm size, firm experience, total profit, total asset, and industrial categories, that may affect strategic decisions and export performance (Filatotchev, Liu, Buck, & Wright, 2009; Myers, Cavusgil, & Diamantopoulos, 2002; Singh, 2009). Specifically, *degree of internationalisation*, which is measured by the number of export markets, implies firms' international commitment and the geographical extent of the international expansion process (Hitt, Tihanyi, Miller, & Connelly, 2006; Lin, 2014). *Firm size* is also a widely used control variable in venture-level export performance analysis (Tan & Sousa, 2011). This study captures this using the number of employees (Brouthers, 2002; He et al., 2013). *Firm experience* may also influence export activities as it reflects the accumulation of knowledge and experience (Hultman, Katsikeas, & Robson, 2011; Sousa & Bradley, 2009). This study measures firm experience by using the number of years since the firm was founded (Yi, Wang, & Kafouros, 2012). *Total profit* is measured by the firm-level overall operating profit at the end of each year in the Chinese currency (million RMB). *Total asset* is measured by firm-level total asset at the end of that operating year in Chinese currency (RMB). Furthermore, we control for the *industrial categories*, where we use the industrial classification applied by the National Bureau of Statistics of China. This classification is consistent with the Standard

Industrial Classification but with a different way of coding. We included the first two digits of the four-digit industrial code to control for the major industrial groups.

In addition, for the exit model, this study takes two export performance-related variables into consideration, including the market importance and firm-level export growth. The *degree of market importance* is measured by the proportion of export sales in a market to the total export sales. *Firm-level export growth* is captured by the difference between the firm-level export sales value of a given year and that of the previous year. Firm performance growth is positively related to high-discretionary resources, which allows a firm to shift resources to respond to environmental pressure (Sapienza, Autio, George, & Zahra, 2006). Exporting firms may suffer poor performance in a specific foreign country that drives them to exit from the market, but the overall firm-level export sales growth allows resource slack to help exiters to avoid the cessation of foreign networks.

Furthermore, this study also includes strategy related variables that may potentially affect the results. First, we controlled for *market portfolio re-orientation*, which equals a value of one if an exporting firm withdraws from one market (or above) but enters another one (or above) simultaneously and equals a value of zero otherwise. For the exit model, we controlled for *multiple exits*, which is captured by the number of exited markets from which an exporting firm withdraws simultaneously in a given year. Firm-level operation failure may lead an exporting firm to exit several export markets at the same time. This may lead to different decisions during the time-out period and strategies after re-entry. Thus, we consider applying these two variables to reflect the beautiful/ugly exit suggested by Kimmo, Kristian and Jaana (2000). Similarly, for the re-entry model, we controlled for the number of simultaneous re-entry markets, namely

multiple re-entries, which may be correlated with the strategies and export performance after re-entry. Moreover, we controlled for *product switching* for the re-entry model, which assumes a value of one if an exporting firm re-enters with the same product and assumes zero otherwise.

To capture external exogenous conditions, this study controls for several country-level variables, including market size, income level, exchange rate, competition index and first-order difference indices, as they significantly influence exit and re-entry decisions as well as export performance (Welch & Welch, 2009). First, we controlled for the foreign *market size*, which is measured by the GDP of export markets (Lee, Beamish, Lee, & Park, 2009). Second, we also controlled for individual *income level*, which is measured by GDP per capita, as it reflects customers' demand and purchase ability (Amiti & Khandelwal, 2013). As both GDP and GDP per capita are largely scaled, we use logarithmic value. The *exchange rate*, $Exrat_{jt}$, is measured as the average exchange rate between local and host-country currencies for a given year. To capture the *competition* in foreign markets, we controlled for the inversed Hirschmann-Herfindahl (HHI) index of export markets in a given year (Feng, Morgan, & Rego, 2017). Furthermore, we calculated the first-order differences between each year and the previous year value of these four country-level variables separately to capture the environment changes of the foreign market.

Additionally, we included *time-specific* and *country-specific fixed effects* to control for the heteroskedasticity and unobserved heterogeneity across time and countries (Amiti & Khandelwal, 2013; Feng et al., 2017). Table 2 contains the descriptive statistics and the correlations between variables.

[Table 2 goes about here]

3.3 Model Specification

In order to test the hypotheses, we built a two-stage model to empirically examine the relationships between exit and re-entry stages and the moderation role of time-out period for Chinese exporters between 2000 and 2009.

Exit probability model. Firm exit decisions are shaped collectively by the outcomes of firm exporting activities, firm internal resources and external changes. Thus, we formulated the exit decisions as a function of performance, firm characteristics and market conditions,

$$Exit_{ijt_1} = \varpi_1 S_{ijt_1} + \Psi_2 O_{it_1} + \Psi_3 DE_{it_1} + \Psi_4 M_{jt_1} + \nu_j + \nu_t + e_{ijt} \quad (10)$$

where S_{ijt_1} represents the export performance of firm i in country j before the exit decision; O_{it_1} represents the a vector of firm-level variables of firm i ; DE_{it_1} denotes a set of exit-decision related variables; M_{jt_1} represents the set of market conditions of country j ; ν_j and ν_t are unknown country specific and time specific fixed effects respectively; and e_{ijt} is the residual term, which is assumed to be serially uncorrelated independent normal distributed with zero mean.

Regarding the firm-level variables for exit model, we included degree of internationalisation (DoI_{it}), firm size (F_{it}), firm experience (FE_{it}), total profit (TP_{it}) total asset (TA_{it}), industrial categories ($Indu_i$), market importance (MI_{it}) and export sales growth ($Growth_{it}$), which can be written as a vector:

$$O_{it} = [DoI_{it}, F_{it}, FE_{it}, TP_{it}, TA_{it}, Indu_i, MI_{ijt}, Growth_{it}] \quad (11)$$

In addition, the exit decision-related vector was composed by markets portfolio re-orientation ($Reorien_{it_1}$), the number of exited markets in a year ($Multi_exit_{it_1}$):

$$DE_{it_1} = [Reorien_{it_1}, Multi_exit_{it_1}] \quad (12)$$

Regarding the market conditions, we considered market size (GDP_{jt}), income level (I_{jt}), exchange rate ($Exrat_{jt}$) and competition (HHI_{jt}) of export markets, and their first-order differences separately to capture environmental changes. Then, the economic market condition is written as a vector:

$$M_{jt} = [MV_{jt}, \Delta MV_{jt}] \quad (13)$$

where $MV_{jt} = [GDP_{jt}, I_{jt}, Exrat_{jt}, HHI_{jt}]$, $\Delta MV_{jt} = MV_{jt} - MV_{j(t-1)}$

Re-entry probability model. The export market re-entry decision becomes valuable to consider after the exit decision. Based on the decision theory, exporters will choose to re-enter to a previously-abandoned market only under the condition that they have a higher expectation of performance after re-entry than the performance of remaining absent from the market. We estimate the exit probability as the probability that an exporting firm will decide to exit an export market over the cumulative probability of an exporting firm's decision. Inverse mills ratio, IMR , was used to capture this conditional probability, which is computed based on the predicted value of exit probability model. The ratio was calculated by the probability density (pdf) and cumulative distribution (CDF) values, and using the equation $IMR = f(z) / (1 - F(z))$, where z is the predicted values from the first model, $f(.)$ is the pdf and $F(.)$ is the CDF. IMR is used as

a means of correcting the endogeneity bias in the re-entry model caused by the correlation between unobserved firm heterogeneity in affecting exit and re-entry decisions (Bernini et al., 2016).

Furthermore, the time-out period is an important dimension that intertwines the lagged relationships between exit and re-entry stages. As such, the export market re-entry decision becomes to a more complex issue that depends on both prior exporting activities, the dynamism of change, and current uncertainty. Then, an exporting firm's re-entry probability towards a foreign market could be formulated as a function of prior exit information, the time-out period, current market conditions and firm characteristics:

$$\begin{aligned} Reentry_{ijt_2} = & \omega_1 IMR + \omega_2 S_{ijt_1} + \omega_3 \Delta t + \Omega_4 O_{it_2} + \Omega_5 DR_{it_2} + \Omega_6 M_{jt_2} \\ & + \omega_7 IMR * \Delta t + \omega_8 S_{ijt_1} * \Delta t + v_j + v_t + e_{ijt} \end{aligned} \quad (14)$$

where $\varepsilon[P_{ij}(d_{t_1} = 0 | d_{t_0} = 1)]$ denotes the predicted exit probability of firm i leaving country j at exit time t_1 ; $\Delta t = t_2 - t_1$; S_{ijt_1} denotes the export performance of firm i in country j before the exit decision; v_j and v_t are unknown country specific and time specific fixed effects respectively; and e_{ijt} is the residual term, which is assumed to be serially uncorrelated independent normal distributed with zero mean. The market related variables, M_{jt_2} , and the firm-level variables, O_{it_2} , are generally consistent with exit model. The only difference is that firm-level variables after re-entry, O_{it_2} , does not include market importance or sales growth, as re-entrants do not have any operations in the return markets before re-entry happens. DR_{it_2} is a set of re-entry decision related variables, which includes markets portfolio re-orientation

($Reorien_{it_2}$), the number of re-entry markets in a year ($Multi_reentry_{it_2}$), and product switching ($Pro_switch_{it_2}$):

$$DR_{it_2} = [Reorien_{it_2}, Multi_reentry_{it_2}, Pro_switch_{it_2}] \quad (15)$$

Export performance after export market re-entry. The export performance after re-entry, denoted as S_{ijt_2} , is shaped by the strategy applied after re-entry. By considering other control variables, we regress the export performance after re-entry as:

$$S_{ijt_2} = \gamma_0 + \gamma_2 S_{ijt_1} + \gamma_3 lpq_{ijt_2} + \gamma_5 \Delta t + \gamma_6 S_{ijt_1} * \Delta t + \Gamma_7 O_{it_2} + \Gamma_8 M_{jt_2} + v_j + v_t + e_{ijt} \quad (16)$$

where lpq_{\omegaijt_2} denotes the price/quality ratio in the re-entry market; $S_{ij(t_1-1)}$ represents the export performance in the market j before exit time respectively; v_j represents the country specific effects, which controls for the entry cost of country j ; v_t controls for secular time effects. where p_{ijt} is the price and q_{ijt} is the quality of a product after re-entering country j .

Price/quality ratio after export market re-entry. The price/quality ratio after re-entry is shaped by price/quality ratio before exit. Furthermore, we include the firm- and country-level variables, as they may join to affect the pricing strategy after re-entry, formulated as:

$$lpq_{ijt_2} = \rho_1 lpq_{ijt_1} + \rho_2 \Delta t + \rho_3 lpq_{ijt_1} * \Delta t + P_4 O_{it_2} + P_5 M_{jt_2} + v_j + v_t + e_{ijt} \quad (17)$$

where t_1 denotes exit time, and t_2 is the re-entry time, $\Delta t = t_2 - t_1$.

3.4 Results

Exit and re-entry decisions are two sequential decisions, where re-entry only happens after exiting an export market. In order to assess these two stages of decision making over time, we used a sequential fixed-effect panel model, with probit link function, to estimate the probability of exporters for exit and re-entry. With respect to the export performance and price/quality ratio after re-entry, a generalised linear model was applied to reduce the disturbances from the potential outliers and heteroscedasticity issues. Noticeably, the probability of the re-entry model (stage two) depends on the predicted values of both exit probability (stage one) and performance after re-entry.

Exit probability. An exporting firm will choose to leave an export market at time t_1 after observing all of the information for that year. Hence, we regressed the firm-country dichotomous exit decision at time t_1 (exit as event one) on the export sales value, all firm-level, decision-level, and country-level variables. Some of the continuous variables, including export performance, firm size, total asset, GDP, income level and exchange rate, are taken logarithmic value to reduce the estimation bias due to the skewed scales and outliers. In addition, we controlled for the industry-specific, country-invariant and time-invariant fixed effects. The parameter estimations of the probit model of exporters' exit probability are shown in Table 3.

[Table 3 goes about here]

The significant Hausman test results ($\chi^2 = 12,422$, $p < 0.001$) in Table 3 provide information on the appropriateness of the fixed-effect specification. The results suggest the significance of the export performance, firm characteristics, and foreign market conditions in shaping market exit

decisions. Specifically, regarding export performance, export sales value has a negative effect on exit decision ($-0.11, p < 0.001$). This indicates that exporters are less likely to exit an export market when they have achieved a better performance. In addition, exporting firms are more likely to exit the market with less export share, namely a lower degree of market importance ($-0.18, p < 0.001$). With respect to other firm-level variables, the results suggest the negative effects of firm size ($-0.02, p < 0.001$), degree of internationalisation ($-0.02, p < 0.001$), export growth ($-0.03, p < 0.001$), and total profit ($-0.09, p < 0.001$) on exit decisions. This indicates that exporters tend to have a higher probability of exiting from an export market when they experience a drop in firm size, overall degree of internationalisation, export growth and total profit.

In comparison, some firm variables tend to have a positive effect on the export market exit decision, including firm experience ($0.001, p < 0.001$) and total asset ($0.003, p < 0.001$).

Exporting firms with longer operating experience tend to be more open to export market exit decisions. Operating experience contributes to the development of capabilities and knowledge, which in turn shapes strategic decisions (Delios & Beamish, 2001). Firms with long operating experience tend to be more likely to have considered exit decisions previously, thus developing a different internationalisation trajectory. In this case, experienced firms tend to be more open to export market exit decisions than novices. Firms with larger total asset are more likely to withdraw from an export market, as an exit decision relating to an individual export market will not affect their overall international distribution.

In addition, exporting firms tend to have higher exit probabilities when they are exiting from multiple export markets ($0.09, p < 0.001$) or re-orientating their export markets ($0.39, p < 0.001$).

Externally, the results suggest that exporting firms tend to have low exit probabilities when the levels of market size, income level, exchange rate and competition are high but the changes are low.

Re-entry probability. With respect to the re-entry intentions of exporters after exiting the market, a probit model was employed with the dichotomous choice of re-entry (event one) or non-re-entry (event zero) as the dependent variable. The probability of re-entry represents the likelihood that the expectation of post-re-entry performance is higher than the performance related to staying out of the market. Noticeably, re-entry decisions become worthy of consideration only after exit decisions. Thus, we selected the firms that were observed with export market exit cases. Then, we included the inverse mills ratio, *IMR*, computed on the basis of predicted value from the model on the export market exit, Model 1.

Table 4 lists the corresponding estimation results in terms of the probability of market re-entry. Model 2 includes the exit probability of all first-order variables, Model 3 further embraces the interaction term between the *IMR* ratio and the time-out period and Model 4 embraces the interaction term between the export performance before exit and the time-out period. Model 5 includes all variables as a robustness check.

[Table 4 goes about here]

First, the *IMR* is consistently significantly negative across all model specifications (-0.85, $p < 0.001$ in Model 2), which indicates that the exporters with a high exit probability tend to have a low re-entry probability. By definition, *IMR* captures the potential bias due to the correlation between firm-specific fixed effects that shape both export market exit and re-entry probabilities

(Bernini et al., 2016). The findings show that the forces that drive exporting firms to exit an export market continue to discourage them from re-entry. Moreover, this negative intertemporal relationship between prior exit and following re-entry probabilities is further strengthened by the increasing time-out period (-0.83 , $p < 0.001$ in Model 3), while the length of the time-out period itself appears to have a positive effect on the likelihood of re-entry. These findings support Hypothesis 1. This indicates that, after a long time-out period, exiters tend to be increasingly reluctant to re-enter due to the fading benefits of re-entrants. The advantage from prior international heritage as a re-entrant diminishes with the increasing time-out period.

With respect to the influence from the previous export performance, unexpectedly, the results show a negative relationship between export performance before exit and re-entry probability (-0.04 , $p < 0.001$ in Model 2) and the time-out period negatively moderates this negative relationship (-0.02 , $p < 0.001$ in Model 5), which fails to support Hypothesis 2. One of the potential reasons for this may be caused by undue trauma caused by the exit process. Exit decisions are co-shaped by both internal and external conditions (Decker & Mellewigt, 2007). The exit model (Model 1) above suggests that firms with high export performance tend to have low exit probability. However, for exporters that choose to leave the export markets even under the condition of high export performance, their exit decisions are more likely to be driven by critical incidents. In this way, external conditions play a major role in impeding the following re-entry decisions. The experience is sufficiently negative to cause a 'never again' reaction, dissipating the firm's international heritage and its likelihood of returning (Welch & Welch, 2009). As time goes by, accompanied by the loss of staff and of international heritage, exited firms become increasingly reluctant to contemplate re-entry (Welch & Welch, 2009).

Figure 3 illustrates this moderating effect of the time-out period on the relationship between the re-entry probability and (a) exit probability (b) export performance before exit. This finding indicates that firms with high prior exit probability potentially have relatively low re-entry tendency, and the increasing time-out period of absence from a market further strengthens this tendency caused by the prior exit probability. The export performance before exit appears to negatively affect re-entry probability, and the increasing time-out period strengthens this negative relationship with a steeper slope. Thus, the method of finding a trade-off between the prior exit information and the time-out period is crucial for decision making by re-entrants.

[Figure 3 goes about here]

Export performance after export market re-entry. After re-entering a previously-abandoned export market, achieving superior export performance becomes a key question for exporters. The prior value of the re-entry decision is based on the expected future performance in this market and the posterior value of re-entry decisions is determined by actual performance after re-entry. Understanding the relationships between exit and re-entry stages and engaging in appropriate marketing strategies posterior to re-entry could help exporters to improve their performance and achieve their objectives of growth and diversification. We employed a general linear regression with robust variance and regressed the export sales value after re-entry on the previous export performance before exit and combined price and quality strategy after re-entry. In addition, we included the interaction between the time-out period and export performance at the exit time. The results are shown in Table 5.

[Table 5 goes about here]

Model 6 includes the first-order terms and Model 7 further embraces the interaction terms. Unlike initial entry, re-entrants possess valuable resources due to their previous exporting outcomes in the target market. We consider that these resources are reflected in their previous performance at the exit stage, which appears to have a significant positive effect on the performance after re-entry (0.29, $p < 0.001$ in Model 6). The empirical results suggest that prior exporting heritage provides some baseline advantages to re-entrants. Although they have exited the foreign market, the legacies of previous networks and knowledge are still beneficial to re-entry firms. Thus, when an exporting firm is targeting on the global expansion, re-entering a market that they had previously left is a viable opportunity for them to consider, as they tend to have international heritages in this market.

Furthermore, Model 7 suggests that positive relationships between prior international heritage and export performance after re-entry dissipate as time goes by, where the time-out period negatively moderates this relationship (-0.07, $p < 0.001$ in Model 7). This finding supports Hypothesis 3. Figure 4 illustrates the moderating effect of the time-out period on the relationship between export performance before exit and after re-entry decisions. This indicates that a long time-out period could potentially lead to a positive effect from a prior history becoming a negative effect (Bernini et al., 2016; Welch & Welch, 2009).

[Figure 4 goes about here]

Price/quality ratio after export market re-entry. In addition to export performance, the strategic decisions of re-entrants are also affected by their exit stages. The combination of price and quality strategies plays a key role in shaping customers' willingness to purchase, thereby

determining the volume of export sales (Brouthers et al., 2000; Tellis & Wernerfelt, 1987). Thus, we have established a connection between the price/quality ratio at the exit and re-entry stages and show how this varies with the time-out period. Table 6 lists the results of the general linear regression with robust variance.

[Table 6 goes about here]

The results suggest that the previous price/quality ratio before exit positively affects the price/quality ratio after re-entry (0.60, $p < 0.001$ in Model 8), while this effect decreases along with the increasing time-out period (-0.02, $p < 0.01$), thereby supporting Hypothesis 4. This means that re-entrants benefit from their previous operations, where the sediments of prior commitment and business networks lead to foreign customers being willing to pay a higher price per unit quality. Compared with novices, who do not have prior experience in these export markets, re-entrants' price/quality ratio before exit positively shifts after re-entry, whereby their marketing strategies after re-entry are strongly connected to those before exit. As a result, by selling every product with homogeneous quality, re-entry firms could generate higher profits. Nevertheless, combining the results of Model 7, although prior strategic experience positively shifts the price/quality ratio after re-entry, the over-charged price per unit quality tends to be detrimental to the customer utility function, leading to an unwillingness to pay. Thus, setting a balanced price/quality ratio is of particular importance to export performance after re-entry. In addition, the significant negative coefficient of the interaction term suggests that the connection between the price/quality ratio at the exit and re-entry stages is mitigated by the increasing time-out period. As the international heritage becomes less useful along with the increasing length of

time absent from a foreign market, the positive influence from the price/quality ratio at the exit stage is diminished accordingly.

3.5 Additional Analysis

After the hypothesis testing, we ran some additional analysis. First, we included the price/quality ratio before exit as an explanatory variable of export performance after re-entry. Unlike the price/quality ratio after re-entry, the results show that this ratio before exit has a significant negative effect (-0.06 , $p < 0.001$) on the export performance after re-entry. The results suggest that a high-margin strategy before exit is detrimental to the export performance after re-entry.

Customers tend to be reluctant to purchase from a re-entrant that previously charged high prices for low-quality products. Moreover, this negative effect does not change along with time-out period, whereby the time-out period has a non-significant moderating effect on this relationship. On the other hand, if customers previously experienced premium quality for the price they paid, they are more likely to repurchase from this firm even after a period of exit.

In addition, we included the quadratic price/quality ratio after re-entry as another explanatory variable of export performance after re-entry. The empirical results indicate a significant negative quadratic relationship between the price and quality combination and the issue of export performance (first- and second-order parameters are 0.13 and -0.01 respectively, $p < 0.001$). This concave curvilinear link provides evidence of the existence of the optimal price and quality combination that can maximise export performance after re-entry. Although the above results suggest that re-entry firms could employ a higher-margin strategy such as charging a higher price

or providing lower quality, the feasibility of the optimal price/quality ratio provides a trade-off between decisions regarding customer utility maximisation and exporter profit maximisation. Re-entry firms cannot keep increasing their price/quality ratio, as their performance will be negatively impacted if the overpriced quality depletes their benefits as returners.

3.6 Robustness Checks

To check the robustness of the results in this study, we carried out a series of additional analyses. First, we used an alternative identification for exit. The current outputs are based on the identification of the exit period as a gap equal to or greater than two years. The choice to use two years as the threshold for an exit gap may be arbitrary. To further strengthen the results obtained, we re-ran the models using a sample with longer exit gaps (e.g., three years), which helps to diminish the possibility of misclassifying sporadic exporting. Second, we checked our results by using subsamples of firms that were less likely to switch from exporting to other forms of internationalisation (e.g., foreign direct investment (FDI)). The previous literature showed that firms' internationalisation trajectories and mode selection are shaped by firm resources and the host market environment (He et al., 2013; Kang & Jiang, 2012). For example, Chinese multinationals' FDI location choices are positively associated with market size, market growth, market openness, natural resource endowments and intensity of business transaction, and negatively related to cultural distance (Chen & Tan, 2012; Kang & Jiang, 2012). Based on the previous findings, we re-ran the same models using two subsamples: one was a sample of firms that were less likely to invest abroad and the other was a sample of countries in which few

Chinese firms invest. Third, we used additional control variables. Our dataset contained other resource-related variables (e.g., advertising and R&D costs), but these were only available between 2005 and 2007. Thus, we selected the exit and re-entry cases between 2005 and 2007 and added additional control variables, including advertising intensity and R&D intensity. In all cases, the results generated by in the additional analysis were qualitatively similar to those reported above.[†]

In addition, we examined the quadratic relationship between the time-out period and re-entry probability as well as quadratic interactions. The results indicate an inverted U-shaped relationship between the time-out period and re-entry probability. This suggests that re-entry probability increases initially along with the increasing time-out period. However, this growth only lasts for a limited number of years. If exporting firms have left foreign markets over a certain period of time, they become less likely to re-enter those markets they previously exited. These results reflect the fact that our proxy for export market exit successfully excluded the sporadic exporting cases.

4 DISCUSSION

The literature on internationalisation mainly focuses on international growth and defines it as “the process of increasing involvement in international operations” (Vissak & Francioni, 2013: 951).

[†] Due to space limitations, the results of robustness checks are not reported. They are available upon request from the authors.

Such studies implicitly suggest that becoming international is an effectively irreversible step accompanied by successive and incremental market commitment (Bernini et al., 2016; Javalgi et al., 2011). However, it is evident that, for many firms, internationalisation is not always a linear, incremental, and irreversible process (Vissak & Francioni, 2013). Firms may pull out of foreign markets, reduce foreign operations and/or switch to low commitment operations in one or more countries (Benito & Welch, 1997; Vissak & Francioni, 2013). Only after de-internationalisation does re-internationalisation become a valuable option to consider.

This study empirically investigated the relationships between de- and re-internationalisation processes for exporting firms and examined the variations in these relationships with the time-out period. Although the emerging research highlights the importance of export market exit and re-entry, the investigation of nonlinear internationalisation regarding exporting activities is still poorly appreciated (Bernini et al., 2016). Increased competition in the current global market means that understanding the process of nonlinear internationalisation regarding exporting activities is increasingly important to exporters as there is a need to avoid market shocks, capture emerging opportunities, and enhance their development. Noticeably, the value of the re-entry decision varies over time, whereby the time-out period moderates the relationships between the exit and re-entry stages. This study developed a two-stage decision model to explore exporters' decisions regarding exit and re-entry in individual export markets. It explained the relationships between the exit and re-entry stages and the moderation role of the time-out period in changing these relationships. The results have generated a number of key implications for both researchers and practitioners.

4.1 Theoretical Implications

The literature on internationalisation widely considers that internationalisation is an irreversible and linear involvement process (Bernini et al., 2016; Gankema, Snuif, & Zwart, 2000; Vissak & Francioni, 2013). The two-stage decision model developed in this study theoretically delineates the issue of the de-internationalisation and re-internationalisation of exporters and their decisions in a context of uncertainty. This effort responds to the call for more research into nonlinear internationalisation by providing possible reversible choices that augment the traditional internationalisation process (Welch & Welch, 2009). This study suggests that the internationalisation process is not always linear, incremental and unidirectional. The process of exiting and re-entering export markets shows the reversibility of the internationalisation processes and indicates the flexibility of international involvement, which could offer further insight on quasi-internationalisation (Bernini et al., 2016; Javalgi et al., 2011).

In this study, we have extended the literature on exporters' nonlinear internationalisation process from intermittent exporting (Bernini et al., 2016) to a more common extent – exit and re-entry to individual export markets. Market-level exit and re-entry decisions are more frequently made in daily exporting practices, which require exporters to respond swiftly to the internal and external conditions in individual markets. Rather than leaping between exporters and non-exporters, we suggest that the nonlinear internationalisation is composited by fragmental moves. The results highlight the important role of specific internal and external conditions in the exited markets in shaping re-entry likelihood, price/quality ratio and export performance.

In addition, we combined the RBV and decision theory to explain the conditions of the export market re-entry stage by considering the interplay between the prior exit stage and the time-out period. This provides a theoretical foundation for the nonlinear internationalisation process regarding the export stage. This effort is of particular importance because exporting firms are facing severe uncertainty in global markets. The application of decision theory complements RBV by considering strategic decisions under uncertainty (Nemkova, Souchon, Hughes, & Micevski, 2015). Firms need to deploy and synthesise their resources to make effective decisions (Wierenga, 2011), including export market exit and re-entry. This approach is consistent with the concept of real options theory, which suggests that a strategic decision is sensitive to uncertainty over the future expected return, which enhances the understanding of the firm's heterogeneity and competitive advantages under uncertainty (Trigeorgis & Reuer, 2017).

In addition, this study further expands the current knowledge by considering information from the prior exit stage and the dynamics of the intertemporal link between the prior exit and later re-entry stages. The results provide valuable insights into the dilemmas between commitment versus flexibility in international business, where increasing internationalisation flexibility (i.e., export market exit and re-entry) helps to avoid predictable loss but impairs exporters' commitment in foreign markets. Consistent with the extant conceptual literature regarding market re-entry (Javalgi et al., 2011; Welch & Welch, 2009), this study empirically suggests the uniqueness of re-entrants due to international heritage from the a previous presence. This effort also reflects the differences between re-entrants and novices, where the sediment relationships with customers, knowledge of foreign markets, and market resources play significant roles in shaping re-entry decisions, strategies and outcomes (Javalgi et al., 2011).

By adding the dimension of time, this study provides critical boundary conditions to RBV in that past resources and information have an attenuating effect on the re-entry stage. The effect of international heritage is not persistent, as the magnitude of the intertemporal relationships between the exit and re-entry stages diminishes along with the increasing time-out period. This effort responds to calls in the literature to examine the moderating role of the time dimension in the decision-making process as well as the time-out period in the re-internationalisation process (Welch & Welch, 2009; Wierenga, 2011). The findings suggest a feasible frontier to the advantages gained as a returner. Furthermore, the results reflect the issue of knowledge atrophy, which echoes the generalised organisational learning perspective that the operation of firms is a learning process followed by organisational forgetting (Holan & Phillips, 2004).

Bernini, et al. (2016) found a negative linkage between overall export retreating and restarting decisions. We find that this relationship is consistent with respect to the exit and re-entry decisions of individual export markets, where firms with a low probability of exit tend to have a high likelihood of restarting exports. Moreover, our empirical results indicate that the negative relationship between the exit and re-entry probabilities to individual export markets is further aggravated over time. This result is consistent with the anticipation of Welch and Welch (2009), who suggest that re-internationalisation is less likely to happen under the condition of long time-out period. Due to the shedding or inaccessible international heritage, the rationale of the prior exit decision tends to be dispensable, while the current firm characteristics and future expectations become more important to the re-entry decision.

Surprisingly, exporting firms that choose to exit a foreign market under the condition of high export performance tend to have a low likelihood of re-entry. External shocks in foreign markets

may unduly hinder exporters' motivation to return. Even if they have achieved high performance in those markets, external menace outweighs the internal benefit, which leads exiters to be more likely to continue to stay out. In addition, such reluctance is further strengthened with a longer time-out period. Thus, the findings indicate that both internal resources and external conditions determine the likelihood of re-entry, but the weights of the determinants may vary under difference circumstances.

With respect to the relationship between export performance before exit and after re-entry, the time-out period plays an analogous role in dissipating this intertemporal linkage. Our empirical results suggest that high export performance before exit positively contributes to the export performance after re-entry, while the interim time period between exit and re-entry mitigates the influence of the previous performance. Prior export performance is considered as feedback on a firm's prior business operations, reflecting a firm's prior experience, network, and knowledge (Sousa & Tan, 2015). However, these resources decay gradually if kept redundant (Dixit, 1989). After exiting an export market for a long period, a firm will receive diminished benefits from prior operations and become increasingly like a new entrant. As such, regarding exporters with high prior exit probability (e.g., market failure), a longer time-out period may aid the re-entry probability, but the advantages gained from prior exporting in the exit market dissipate with the increasing time-out period. Thus, exploring a decent timing for re-entry that balances the attenuation of international heritage with the resistance of return is crucial for re-entry decision making (Javalgi et al., 2011).

Finally, this study further explored the connection between price/quality ratio at exit and re-entry stages and shows how this varies with the time-out period. The price/quality matrix is a key issue

in product positioning (Banerjee & Wathieu, 2017; Pauwels & D'Aveni, 2016). Our results provide some insights to answer a question such as: under what conditions does a positive product positioning-performance relationship hold for re-entrants? For the re-entry firms, a previous exporting presence allows them to have a higher trade-off value between price and quality, thereby generating a higher profit margin. Nevertheless, this positive effect diminishes with the time-out period. Re-entrants need to set their price/quality ratio prudently to generate superior export performance, as the additional analysis results indicate that overpriced unit quality can be detrimental to the export performance after re-entry. Therefore, formulating an appropriate price/quality strategic plan is of particular importance in achieving exporting success posterior to re-entry.

4.2 Managerial Implications

This study also elucidates several useful practical implications for exporters. First, after exporters exit an export market, the strategic decision to re-enter an export market could be considered as an option that consolidates past information and future expectations. Re-entry decisions by exporters regarding export markets should take both the prior exit stage and the future post-re-entry stage into consideration. In particular, export performance before exit plays a significant role in shaping re-entry decisions. Exporters may be unwilling to return if they are forced to exit from a market under the condition of high performance. Nevertheless, it is important for these exiters to understand that the international heritage from their previous international presence could be re-utilised to make significant contributions to their international operations.

Second, when exporters consider the expansion of their international activities, re-entering a previously abandoned foreign market (if there is any) is particularly viable. Prior export performance in the abandoned export market tends to have a positive hysteric influence on export performance after re-entry. Hence, compared with entering a brand new market, re-entry is preferable for international expansion, particularly to export markets with higher export performance before exit. Noticeably, the longer time-out period is accompanied by less useful international knowledge and networks. Exporters should be aware of the effects of the time-out period and make strategic choices in terms of re-entry timing.

Third, the price/quality strategy after export market re-entry, which directly determines re-entry export performance, is guided by the price/quality ratio before exit. This intertemporal relationship between the price/quality strategy between the exit and re-entry stages varies with the time-out period. In order to achieve exporting success after export market decisions, export managers are encouraged to understand and plan their price/quality strategies beforehand to reduce uncertainties, which, in turn, will improve their re-entry performance.

4.3 Limitations and Directions for Future Studies

This study was subject to several limitations, which provide potential directions for future studies. First, the study only considered the exporting activities from a single emerging country, which limits the generalisation of these findings to other markets. For example, the country-of-origin effect offers different images to exporting products, which affects the perceptions and purchasing intentions of foreign customers (Balabanis & Diamantopoulos, 2004; Godey et al.,

2012). Thus, the appropriate price and quality strategies posterior to re-entry are considered to be variable among exporting firms from different origin markets. Future studies are encouraged to compare market exit and re-entry behaviours, as well as the posterior stage after re-entry across different origin markets to elucidate the quasi-internationalisation process. In addition, other factors (e.g., market readiness) for exit may still prevent the firms from re-entry. Future studies are encouraged to account for more market-related control variables, not included in our dataset.

Second, while the host country experience may influence the firm's market exit and re-entry decisions, we were not able to control for this. Decision makers tend to be more reluctant to exit a foreign market after a long-term operation due to the status quo bias. Moreover, the host country experience may vary the international heritage after export market exit, thereby affecting subsequent re-entry decisions. Hence, future studies are encouraged to consider the host country experience and further explore its influence on the exit and re-entry decisions.

Third, this study was limited to examining manufacturing firms. Future studies should consider examining the service industry (Durmuşoğlu, Apfelthaler, Nayir, Alvarez, & Mughan, 2012; Sichtmann & Selasinsky, 2010). The nature of service and manufacturing exporting firms is different, therefore, service exporters face different challenges and respond with different strategies (Sichtmann & Selasinsky, 2010). Future studies regarding exit and re-entry behaviours are encouraged to shed light on service exporting, as the results could provide further answers to the questions posed by intangibility.

Fourth, although the robustness test results suggest that the entry mode switching and additional firm resources did not affect our focal results, the export dataset we used excluded information on

other modes of entry. Export exit and re-entry decisions tend to have lower costs and more flexibility (Bernini et al., 2016). However, as export normally serves as the initial stage of internationalisation, firms may stop exporting to a market but shift to another level of market commitment (e.g., FDI). Such replacement may not be significant for Chinese exporting firms, as firms from emerging markets usually use FDI to strengthen their home base position by obtaining strategic assets (Luo & Tung, 2007). Nevertheless, we encourage future studies to add additional dimensions to nonlinear internationalisation by considering modes of re-entry. Investigating the decision processes behind different modes of re-entry over time should facilitate the internationalisation theory and provide insights into the serial nonlinear internationalisation process. Furthermore, future studies could examine how export performance before exit influences exit probability, which in turn shapes the re-entry modes. Nevertheless, we believe that this study offers a better understanding of export market exit and re-entry decisions, and sheds lights on the strategic decisions at the post-re-entry stage.

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Tables

Table 1 Population of exit and re-entry firms

Year	Exporting firms	Exited firms	Re-entry firms
2000	52,256	1,273	-
2001	63,773	1,566	-
2002	70,750	4,229	-
2003	77,704	4,797	657
2004	89,972	4,205	1,190
2005	106,870	3,123	2,244
2006	113,658	4,280	3,210
2007	148,978	6,248	3,410
2008	163,347	-	1,091
2009	146,188	-	1,098

Table 2 Descriptive statistics and correlation matrix

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1 <i>Exit_{ijt}</i>	1																						
2 <i>Reentry_{ijt}</i>	-0.03	1																					
3 <i>log(S_{ijt})</i>	-0.13	-0.08	1																				
4 Δt	-0.02	0.81	-0.13	1																			
5 <i>lpq_{ijt}</i>	-0.01	-0.01	0.01	-0.01	1																		
6 <i>MI_{ijt}</i>	-0.05	-0.05	0.46	-0.08	-0.15	1																	
7 <i>FE_{it}</i>	0.02	0.04	0.02	0.04	-0.01	-0.06	1																
8 <i>log(F_{it})</i>	0.00	0.02	0.16	0.02	-0.11	-0.21	0.27	1															
9 <i>log(TA_{it})</i>	-0.02	0.02	0.21	0.01	-0.16	-0.21	0.28	0.72	1														
10 <i>DoI_{it}</i>	-0.04	0.01	0.02	0.02	0.17	-0.40	0.10	0.41	0.44	1													
11 <i>Growth_{it}</i>	-0.08	0.02	0.35	0.04	0.07	0.05	-0.03	0.02	0.02	0.06	1												
12 <i>Multi_exit_{it}</i>	0.40	-0.01	-0.02	-0.02	0.03	-0.08	0.05	0.09	0.07	0.14	-0.03	1											
13 <i>Multi_reentry_{it}</i>	-0.02	0.33	0.00	0.30	0.02	-0.09	0.08	0.13	0.12	0.23	0.07	0.01	1										
14 <i>TP_{it}</i>	-0.01	0.00	0.06	0.00	-0.02	-0.02	0.05	0.15	0.19	0.14	0.01	0.00	0.03	1									
15 <i>Reorien_{it}</i>	0.06	0.10	-0.02	0.09	0.04	-0.09	0.05	0.09	0.07	0.18	0.03	0.17	0.26	0.00	1								
16 <i>log(GDP_{jt})</i>	-0.05	-0.02	0.23	-0.03	-0.01	0.27	-0.05	-0.13	-0.17	-0.28	0.01	-0.06	-0.06	-0.04	-0.06	1							
17 <i>log(I_{jt})</i>	-0.04	-0.01	0.12	-0.02	0.00	0.18	-0.07	-0.09	-0.18	-0.20	-0.01	-0.05	-0.04	-0.03	-0.04	0.56	1						
18 <i>log(Exrat_{jt})</i>	0.00	0.00	0.01	-0.01	-0.03	0.06	0.03	0.01	0.07	0.03	0.00	0.00	0.00	0.02	0.00	-0.21	-0.52	1					
19 <i>HHI_{jt}</i>	-0.03	0.00	0.06	-0.01	0.02	0.02	0.00	-0.03	-0.01	-0.02	0.01	-0.03	-0.01	-0.01	-0.01	0.23	0.09	-0.22	1				
20 ΔGDP_{jt}	0.01	0.11	0.08	0.15	0.02	0.11	-0.01	-0.02	-0.07	-0.09	0.06	0.02	0.05	-0.01	0.03	0.40	0.17	-0.15	0.11	1			
21 ΔI_{jt}	0.06	0.19	-0.05	0.26	0.03	-0.05	0.00	0.01	-0.06	-0.02	0.08	0.07	0.11	-0.01	0.09	0.06	0.22	-0.19	0.01	0.47	1		
22 $\Delta Exrat_{jt}$	-0.02	-0.05	0.02	-0.07	-0.01	0.02	0.01	-0.01	0.02	0.00	-0.03	-0.03	-0.04	0.00	-0.04	-0.01	-0.09	0.10	-0.02	-0.14	-0.27	1	
23 ΔHHI_{jt}	-0.03	0.00	0.06	-0.01	0.02	0.02	0.00	-0.03	-0.01	-0.02	0.01	-0.03	-0.01	-0.01	-0.01	0.23	0.08	-0.23	1.00	0.11	0.01	-0.02	1
Mean	0.05	0.13	11.59	2.41	2.42	0.15	9.94	5.95	11.32	23.42	0.19	0.53	0.60	0.04	0.05	26.98	9.67	-0.20	13.98	91.00	1.41	-0.02	11.51
St.dev	0.22	0.34	2.30	1.36	2.76	0.27	8.60	1.24	1.59	19.74	1.69	2.10	2.60	0.56	0.22	1.72	1.24	2.74	5.74	252.62	3.43	0.21	5.21
Min	0	0	0	1	-15.22	0.00	0	0	0	1	-18.28	0	0	-7.35	0	17.12	4.66	-5.66	1.09	-750.4	-40.77	-6.21	-0.63
Max	1	1	23.65	7	16.47	1	155	12.15	18.96	177	16.76	66	68	145	1	30.32	12.17	8.96	31.39	4434	67.05	8.46	28.09

Denotations: *Exit_{ijt}* – Exit decisions, *Reentry_{ijt}* – Re-entry decisions, *log(S_{ijt})* – Logarithmic export performance before exit; *lpq_{ijt}* – Price/quality ratio; Δt – Time-out period; *MI_{ijt}* – Degree of market importance; *FE_{it}* – Firm experience ; *log(F_{it})* – Logarithmic firm size; *log(TA_{it})* – Logarithmic total asset ; *DoI_{it}* – Degree of internationalisation; *Growth_{it}* – Firm-level export growth; *Multi_exit_{it}* – Multiple exits; *Multi_reentry_{it}* – Multiple re-entries; *TP_{it}* – Total profit (in million); *Reorien_{it}* – Markets portfolio re-orientation; *log(GDP_{jt})* – Logarithmic market size; *log(I_{jt})* – Logarithmic income level; *log(Exrat_{jt})* – Exchange rate; *HHI_{jt}* – Competition; $\Delta GDP_{jt} = GDP_{jt} - GDP_{j(t-1)}$ (in billion); $\Delta I_{jt} = I_{jt} - I_{j(t-1)}$ (in thousand); $\Delta Exrat_{jt} = Exrat_{jt} - Exrat_{j(t-1)}$ (in thousand); $\Delta HHI_{jt} = HHI_{jt} - HHI_{j(t-1)}$.

Table 3 Probit estimation of market exit probability

Dependent variable: Export market exit (dichotomous variable)

Variables	Model 1 Parameter estimation
Export performance before exit ($\log(S_{ijt_1})$)	-0.11*** (0.00)
Market importance (MI_{it_1})	-0.18*** (0.00)
Firm experience (FE_{it_1})	0.00*** (0.00)
Firm size ($\log(F_{it_1})$)	-0.02*** (0.00)
Firm total asset ($\log(TA_{it_1})$)	0.03*** (0.00)
Internationalisation degree (DoI_{it_1})	-0.02*** (0.00)
Export growth ($Growth_{it_1}$)	-0.03*** (0.00)
Multiple exits ($Multi_exit_{it_1}$)	0.09*** (0.00)
Total profit (TP_{it_1})	-0.09*** (0.00)
Markets re-orientation ($Reorien_{it_1}$)	0.39*** (0.00)
Market size ($\log(GDP_{jt_1})$)	-0.06*** (0.00)
Income level ($\log(I_{jt_1})$)	-0.02*** (0.00)
Exchange rate ($\log(Exrat_{jt_1})$)	-0.05*** (0.00)
Competition (HHI_{jt_1})	-0.02*** (0.00)
Market size change (ΔGDP_{jt_1})	0.00*** (0.00)
Income level change (ΔI_{jt_1})	0.00*** (0.00)
Exchange rate change ($\Delta Exrat_{jt_1}$)	0.02*** (0.00)
Competition change (ΔHHI_{jt_1})	0.02*** (0.00)
Industry($Indu_i$)	Yes
Country	Yes
Year	Yes
Likelihood pseudo R^2	0.34
Hausman test (degree of freedom)	$\chi^2(17) = 12,422$ with $p < 0.001$

Note: † $p < 0.10$, * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; the number in parentheses are robust standard errors.

Table 4 Probit estimation of market re-entry probability

Dependent variable: Export market re-entry (dichotomous variable)

Variable	Model 2		Model 3		Model 4		Model 5	
	Estimate	Std. Err	Estimate	Std. Err	Estimate	Std. Err	Estimate	Std. Err
<i>IMR</i>	-0.85***	0.07	-0.67***	0.11	-0.84***	0.07	-0.45***	0.05
Export performance before exit ($\log(S_{ijt_1})$)	-0.04***	0.00	-0.06***	0.01	-0.03***	0.01	-0.02***	0.01
Time-out period (Δt)	0.44***	0.01	1.06***	0.02	0.43***	0.01	0.61***	0.01
<i>IMR</i> * Δt			-0.83***	0.07			-0.62***	0.03
S_{ijt_1} * Δt					-0.01*	0.00	-0.03***	0.00
Firm experience (FE_{it_2})	0.00**	0.00	-0.01***	0.00	0.00**	0.00	0.00**	0.00
Firm size ($\log(F_{it_2})$)	-0.02†	0.01	-0.03	0.02	-0.02†	0.01	-0.02	0.01
Firm total asset ($\log(TA_{it_2})$)	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01
Total profit (TP_{it_2})	0.00*	0.00	-0.14*	0.07	-0.08*	0.04	0.00*	0.00
Internationalisation degree (DoI_{it_2})	0.02***	0.00	0.04***	0.00	0.02***	0.00	0.02***	0.00
Multiple re-entries ($Multi_reentry_{it_2}$)	0.14***	0.00	0.30***	0.01	0.14***	0.00	0.13***	0.00
Product switching ($Pro_switch_{it_2}$)	-1.22***	0.02	-2.35***	0.04	-1.22***	0.02	-1.22***	0.02
Market re-orientation ($Reorien_{it_2}$)	0.35***	0.03	0.62***	0.05	0.35***	0.03	0.35***	0.03
Market size ($\log(GDP_{jt_2})$)	0.23	0.31	0.78	0.62	0.23	0.31	0.32	0.31
Income level ($\log(I_{jt_2})$)	-0.02	0.33	-0.22	0.65	-0.02	0.33	-0.09	0.33
Exchange rate ($\log(Exrat_{jt_2})$)	-0.03	0.07	-0.04	0.14	-0.03	0.07	-0.03	0.07
Competition (HHI_{jt_2})	0.00	0.11	-0.07	0.22	0.01	0.11	-0.01	0.11
Market size change (ΔGDP_{jt_2})	0.00	0.00	0.00†	0.00	0.00	0.00	0.00	0.00
Income level change (ΔI_{jt_2})	0.00	0.00	-0.01	0.01	0.00	0.00	0.00	0.00
Exchange rate change ($\Delta Exrat_{jt_2}$)	-0.03	0.07	-0.09	0.14	-0.03	0.07	-0.03	0.08
Competition change (ΔHHI_{jt_2})	-0.01	0.11	0.06	0.22	-0.01	0.11	0.00	0.11
Industry ($Indu_i$)	Yes		Yes		Yes		Yes	
Country	Yes		Yes		Yes		Yes	
Year	Yes		Yes		Yes		Yes	
Likelihood pseudo R^2	0.45		0.45		0.45		0.46	

Note: † p < 0.10, * p < 0.05; ** p < 0.01; *** p < 0.001

Table 5 Estimation of the export performance after export market re-entry

Dependent variable: Export performance after export market re-entry

Variable	Model 6		Model 7	
	Estimate	Std. Err	Estimate	Std. Err
Price/quality after re-entry (lpq_{ijt_2})	0.06***	0.01	0.06***	0.01
Export performance before exit ($\log(S_{ijt_1})$)	0.28***	0.01	0.28***	0.01
Time-out period (Δt)	0.02	0.02	0.01	0.02
$S_{ijt_0} * \Delta t_i$			-0.07***	0.01
Firm experience (FE_{it_2})	-0.01***	0.00	-0.01***	0.00
Firm size ($\log(F_{it_2})$)	0.05*	0.02	0.05*	0.02
Firm total asset ($\log(TA_{it_2})$)	0.21***	0.02	0.21***	0.02
Total profit (TP_{it_2})	0.00**	0.00	0.00**	0.00
Internationalisation degree (DoI_{it_2})	0.00	0.00	0.00	0.00
Multiple re-entries ($Multi_reentry_{it_2}$)	0.03***	0.00	0.15***	0.04
Product switching ($Pro_switch_{it_2}$)	-0.14***	0.04	-0.14***	0.04
Market re-orientation ($Reorien_{it_2}$)	-0.24***	0.05	-0.24***	0.05
Market size ($\log(GDP_{jt_2})$)	-0.79	0.62	-0.74	0.62
Income level ($\log(I_{jt_2})$)	1.64**	0.65	1.62*	0.64
Exchange rate ($\log(Exrat_{jt_2})$)	-0.00	0.13	0.01	0.13
Competition (HHI_{jt_2})	-0.26	0.23	-0.26	0.23
Market size change (ΔGDP_{jt_2})	0.00	0.00	0.00	0.00
Income level change (ΔI_{jt_2})	-0.01	0.01	-0.01	0.01
Exchange rate change ($\Delta Exrat_{jt_2}$)	0.00	0.07	0.01	0.07
Competition change (ΔHHI_{jt_2})	0.30	0.23	0.29	0.23
Industry ($Indu_i$)	Yes		Yes	
Country	Yes		Yes	
Year	Yes		Yes	
R^2	0.20		0.21	

Note: † p < 0.10, * p < 0.05; ** p < 0.01; *** p < 0.001.

Table 6 Estimation of the price/quality ratio after export market re-entry

Dependent variable: Price/quality ratio after export market re-entry				
Variable	Model 8		Model 9	
	Estimate	Std. Err	Estimate	Std. Err
Price/quality before exit (lpq_{ijt_1})	0.60***	0.01	0.59***	0.01
Time-out period (Δt)	0.04*	0.02	0.07**	0.02
$lpq_{ijt_1} * \Delta t_i$			-0.02**	0.01
Firm experience (FE_{it_2})	0.01***	0.00	0.01***	0.00
Firm size ($\log(F_{it_2})$)	-0.06**	0.02	-0.06**	0.02
Firm total asset ($\log(TA_{it_2})$)	-0.18***	0.02	-0.18***	0.02
Total profit (TP_{it_2})	0.02***	0.00	0.02***	0.00
Internationalisation degree (DoI_{it_2})	-0.04	0.03	-0.04	0.03
Multiple re-entries ($Multi_reentry_{it_2}$)	-0.02***	0.00	-0.02***	0.00
Market re-orientation ($Reorien_{it_2}$)	0.06	0.04	0.06	0.04
Market size ($\log(GDP_{jt_2})$)	0.15	0.55	0.16	0.55
Income level ($\log(I_{jt_2})$)	-0.29	0.58	-0.31	0.58
Exchange rate ($\log(Exrat_{jt_2})$)	-0.07	0.11	-0.07	0.11
Competition (HHI_{jt_2})	-0.11	0.20	-0.11	0.20
Market size change (ΔGDP_{jt_2})	0.00	0.00	0.00	0.00
Income level change (ΔI_{jt_2})	0.00	0.01	0.00	0.01
Exchange rate change ($\Delta Exrat_{jt_2}$)	0.07	0.07	0.07	0.07
Competition change (ΔHHI_{jt_2})	0.09	0.21	0.10	0.21
Industry ($Indu_i$)	Yes		Yes	
Country	Yes		Yes	
Year	Yes		Yes	
R^2	0.49		0.50	

Note: † p < 0.10, * p < 0.05; ** p < 0.01; *** p < 0.001.

Figures

Figure 1 A decision process of export market exit and re-entry

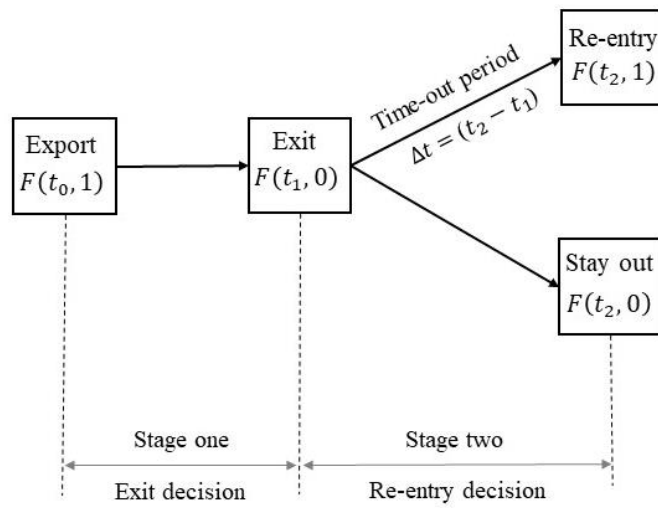


Figure 2 Conceptual framework

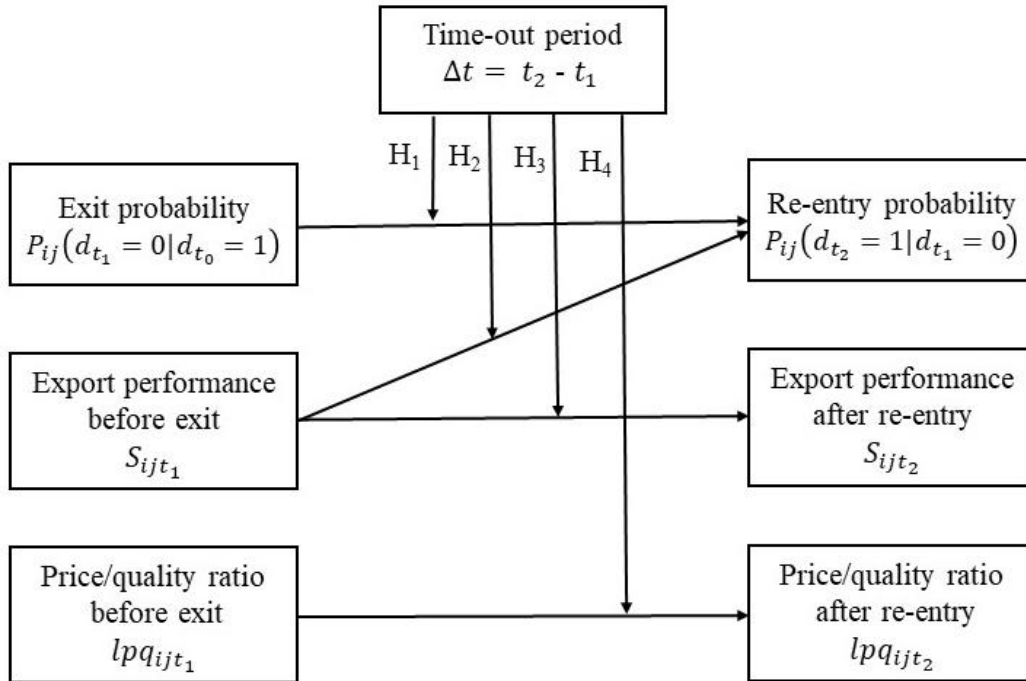
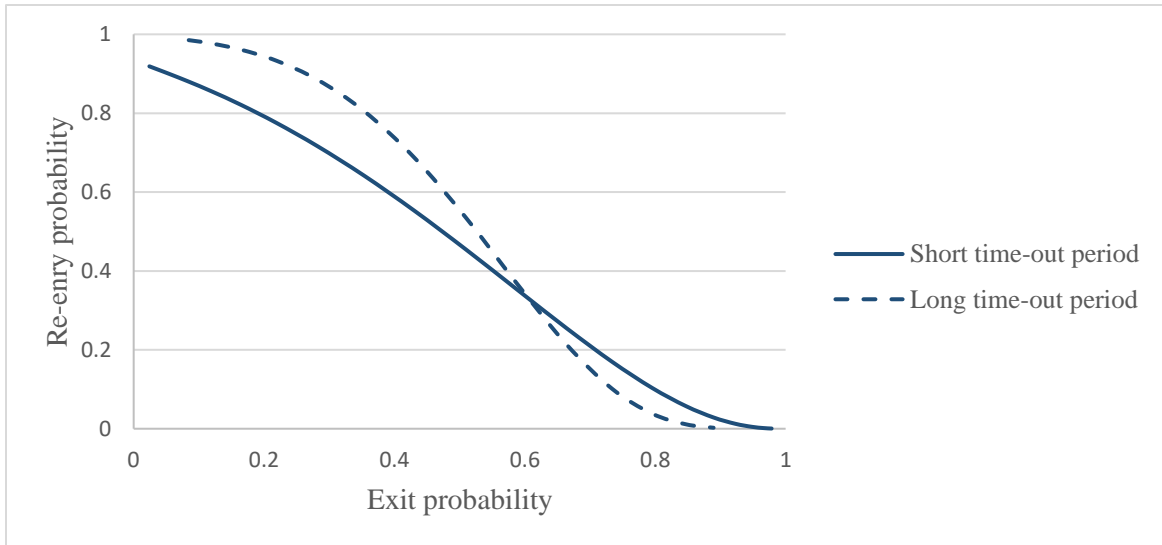
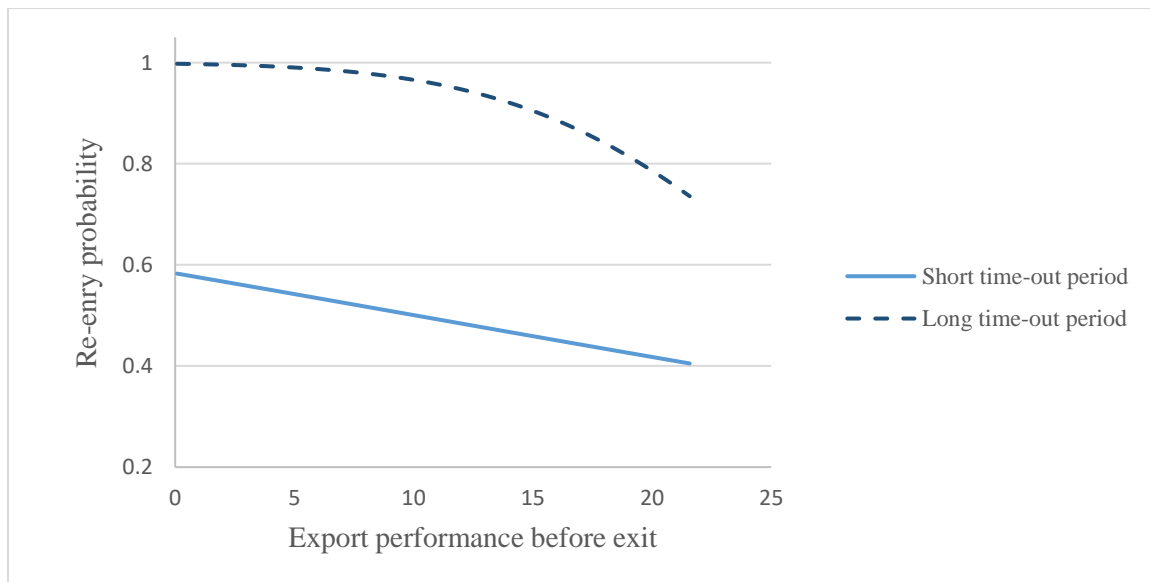


Figure 3 Moderating effects of time-out period on the relationship between re-entry probability and (a) prior exit probability (b) export performance before exit



(a)



(b)

Figure 4 Moderating effects of time-out period on the relationship between export performance before exit and export performance after re-entry

